

**AK3 Antibody (N-term F210)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP8132c****Specification**

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**AK3 Antibody (N-term F210) - Product Information**

Application	WB,E
Primary Accession	<a href="#">P27144</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	25268
Antigen Region	23-53

**AK3 Antibody (N-term F210) - Additional Information****Gene ID** 205**Other Names**

Adenylate kinase 4, mitochondrial {ECO:0000255|HAMAP-Rule:MF\_03170}, AK 4 {ECO:0000255|HAMAP-Rule:MF\_03170}, 27410 {ECO:0000255|HAMAP-Rule:MF\_03170}, 2746 {ECO:0000255|HAMAP-Rule:MF\_03170}, Adenylate kinase 3-like {ECO:0000255|HAMAP-Rule:MF\_03170}, GTP:AMP phosphotransferase AK4 {ECO:0000255|HAMAP-Rule:MF\_03170}, AK4 {ECO:0000255|HAMAP-Rule:MF\_03170}

**Target/Specificity**

This AK3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 23-53 amino acids from the N-terminal region of human AK3.

**Dilution**

WB~~1:1000

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

AK3 Antibody (N-term F210) is for research use only and not for use in diagnostic or therapeutic procedures.

**AK3 Antibody (N-term F210) - Protein Information****Name** AK4 ([HGNC:363](#))

**Function** Broad-specificity mitochondrial nucleoside phosphate kinase involved in cellular nucleotide homeostasis by catalyzing nucleoside- phosphate interconversions (PubMed:[19073142](#), PubMed:[19766732](#), PubMed:[23416111](#), PubMed:[24767988](#)). Similar to other adenylate kinases, preferentially catalyzes the phosphorylation of the nucleoside monophosphate AMP with ATP as phosphate donor to produce ADP (PubMed:[19766732](#)). Phosphorylates only AMP when using GTP as phosphate donor (PubMed:[19766732](#)). In vitro, can also catalyze the phosphorylation of CMP, dAMP and dCMP and use GTP as an alternate phosphate donor (PubMed:[19766732](#), PubMed:[23416111](#)). Moreover, exhibits a diphosphate kinase activity, producing ATP, CTP, GTP, UTP, TTP, dATP, dCTP and dGTP from the corresponding diphosphate substrates with either ATP or GTP as phosphate donors (PubMed:[23416111](#)). Plays a role in controlling cellular ATP levels by regulating phosphorylation and activation of the energy sensor protein kinase AMPK (PubMed:[24767988](#), PubMed:[26980435](#)). Plays a protective role in the cellular response to oxidative stress (PubMed:[19130895](#), PubMed:[23474458](#), PubMed:[26980435](#)).

#### Cellular Location

Mitochondrion matrix {ECO:0000255|HAMAP- Rule:MF\_03170, ECO:0000269|PubMed:11485571, ECO:0000269|PubMed:19766732, ECO:0000269|PubMed:26980435}

#### Tissue Location

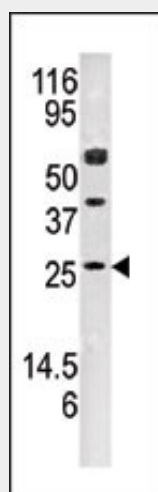
Highly expressed in kidney, moderately expressed in heart and liver and weakly expressed in brain

### AK3 Antibody (N-term F210) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### AK3 Antibody (N-term F210) - Images



Western blot analysis of anti-AK3 Pab (Cat. #AP8132c) in mouse kidney tissue lysate (35ug/lane).

AK3(arrow) was detected using the purified Pab.

### **AK3 Antibody (N-term F210) - Background**

AK3 is a member of the adenylate kinase family of enzymes. This protein is localized to the mitochondrial matrix. Adenylate kinases regulate the adenine and guanine nucleotide compositions within a cell by catalyzing the reversible transfer of phosphate group among these nucleotides. Five isozymes of adenylate kinase have been identified in vertebrates. Expression of these isozymes is tissue-specific and developmentally regulated.

### **AK3 Antibody (N-term F210) - References**

Biochem. J. 358 (PT 1), 225-232 (2001)  
Eur. J. Biochem. 261(2):509-517 (1999).  
Brain Res. Mol. Brain Res. 62(2):187-195 (1998).  
Genomics 13(3):537-542 (1992).  
Cytogenet. Cell Genet. 32 (1-4), 144-152 (1982).